CLAIMS

WHAT IS CLAIMED IS:

1. For supporting an upper end of an elongated vertical offshore oil and gas riser of a given diameter in a body of water, an improved buoyancy can of the type that includes a vertical axial bore through which the riser extends coaxially, the improvement comprising:

a radio-axial slot extending through a side of the can and into the axial bore thereof, the slot having a width greater than the diameter of the riser.

2. The buoyancy can of claim 1, wherein the riser includes a first support feature disposed coaxially thereon adjacent to an upper end thereof, and wherein the buoyancy can further comprises:

a first socket disposed at an upper end of the axial bore thereof, the first socket being adapted to receive the first support feature in a complementary, axial engagement, and to support the first support feature vertically.

3. The buoyancy can of claim 2, wherein the riser further includes a second support feature disposed coaxially thereon at a selected distance below the first support feature, and wherein the buoyancy can further comprises:

a second socket disposed in the axial bore thereof, the second socket being spaced below the first socket by the selected distance and adapted to receive the second support feature in a complementary, axial engagement, and to support the second support feature vertically.

4. The buoyancy can of claim 2, wherein the first support feature comprises a hang-off plug.

5. The buoyancy can of claim 3, wherein the second support feature comprises a riser ball having a given diameter, and wherein the radio-axial slot further comprises:

a radial bore extending through the side of the can and into the axial bore thereof, the radial bore having a diameter greater than the diameter of the riser ball.

6. The buoyancy can of claim 5, wherein the second support feature further comprises a pair of stress joints disposed back-to-back on the riser ball.

7. The buoyancy can of claim 3, wherein the second support feature comprises a stab-in connector having a cross-sectional profile, and wherein the radio-axial slot further comprises;

a radial bore extending through the side of the can and into the axial bore thereof, the radial bore having a cross-sectional profile larger than the cross-sectional profile of the stab-in connector.

8. The buoyancy can of claim 2, wherein the first support feature comprises a flex joint, and the first socket comprises a flex joint receptacle.

9. The buoyancy can of claim 5, wherein the second socket is disposed at a lower end of the buoyancy can and comprises a keel joint sleeve.

10. The buoyancy can of claim 7, wherein the second socket is disposed at a lower end of the buoyancy can and comprises a flex joint receptacle.

11. The buoyancy can of claim 1, wherein the can comprises at least one buoyant compartment, and wherein the buoyancy of the at least one compartment is adjustable.

12. The buoyancy can of claim 1, wherein the can further comprises a plurality of vertical axial bores, each capable of receiving and supporting a riser therein.

13. A method for supporting an upper end of an elongated vertical offshore oil and gas riser of a given diameter in a body of water, the method comprising:

suspending the upper end of the riser such that the lower end of the riser extends vertically below the surface of the water;

providing a buoyancy can in the water and adjacent to the riser, the can having a vertical axial bore and a radio-axial slot extending through a side of the can and into the axial bore, the slot having a width greater than the diameter of the riser; and,

urging the can and the riser together laterally in the water such that the riser passes through the radio-axial slot in the can and is disposed coaxially in the axial bore thereof.

14. The method of claim 13, wherein the riser includes at least one support feature disposed coaxially thereon adjacent to the upper end thereof, and further comprising:

providing at least one socket in the axial bore of the buoyancy can, the at least one socket being adapted to receive the at least one support feature in a complementary, axial engagement, and to support the first support feature vertically; and,

adjusting the vertical position of at least one of the riser and the buoyancy can such that the at least one support feature of the riser is axially seated in the at least one socket of the can.